学术成果：

1. **Wei Zhang***, R. Mazzarello, M. Wuttig and E. Ma, "Designing crystallization in phase-change materials for universal memory and neuro-inspired computing", ***Nature Reviews Materials***, 4, 150-168 (2019)
2. **Wei Zhang*** and E. Ma*, "Phase-change memory: Single-element glass to record data", ***Nature Materials***, 17, 654-655 (2018)
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4. J.-J. Wang, I. Ronneberger, L. Zhou, L. Lu, V.L. Deringer, B. Zhang, L. Tian, H. Du, C. Jia, X. Qian, M. Wuttig, R. Mazzarello, **Wei Zhang***, "Unconventional two-dimensional germanium dichalcogenides", ***Nanoscale***, 10, 7363-7368 (2018)
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6. I. Ronneberger, **Wei Zhang*** and R. Mazzarello*, "Crystal growth of Ge2Sb2Te5 at high temperatures", ***MRS Communications***, 8, 1018-1023 (2018).
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10. **W. Zhang**, F. Hajiheidari, R. Mazzarello*, "Chiral Magnetic Interactions in Graphene Nanoribbons on Topological Insulator Substrates", ***Phys. Rev. B*** 96, 245413 (2017)
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24. M. Xu*, **W. Zhang**, R. Mazzarello and M. Wuttig*, "Disorder Control in Crystalline GeSb2Te4 using High Pressure", ***Advanced Science*** 2, 1500117 (2015)
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Dronskowski*,"Bonding Nature of Local Structural Motifs in Amorphous GeTe". ***Angew. Chem. Int. Ed.*** 53, 10817-10820 (2014)

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27. **W. Zhang**, I. Ronneberger, P. Zalden, M. Xu, M. Salinga, M. Wuttig, R. Mazzarello*, "How fragility makes phase-change data storage robust: insights from ab initio simulations", ***Scientific Reports*** 4, 6529 (2014).
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34. **W. Zhang**, M.-B. Luo*, "Dynamic critical phenomena in two-dimensional fully

frustrated Coulomb gas model with disorder", ***Phys. Lett. A*** 372, 4726 (2008)

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主办会议：

1. 2nd Sino-German Symposium on Electronic and Memory Materials, Sep5-8, 2018, Xi'an, China.
2. 1st Sino-German Symposium on Electronic and Memory Materials, Nov1-5, 2015, Aachen, Germany.

邀请报告：

1. "DFT and TEM guided advances in phase-change materials and memories", Invited by Prof. Zhitang Song, Shanghai Institute of Microsystem and Information Technology, Shanghai, China, Oct. 12, 2015.
2. "Designing crystallization in phase-change materials for memory technology", 2018 International Forum on Advanced Materials, Shenyang, China, Sep. 16, 2018.
3. "Designing crystallization in phase-change materials for memory technology", invited by Prof. Yujia Wang, Institute of Metal Research Chinese Academy of Science, Xi'an, China, Sep. 18, 2018.
4. "Designing crystallization in phase-change materials for memory technology", The 2nd Sino-German Symposium on Electronic and Memory Materials, Sep. 5, 2018, Xi'an, China. Organizer, Session Chair.
5. "Designing crystallization in phase-change materials for universal memory", 2018 The International Emergent Memory Symposium, Ji'an, China, Aug. 31, 2018.
6. "Tuning disorder in phase-change materials for non-volatile memory technology", The 11th International Workshop on Materials Behavior at the Micro- and Nano-Scale, Xi'an,

China,

7. "Sub-ns writing of phase-change memory", MRS Spring Meeting, Phoenix, USA, Apr. 4, 2018. Session Chair.
8. "Density functional theory guided advances in phase-change materials for electronic memories", Invited by Prof. Ian McArthur, The University of Western Australia, Perth, Australia, Feb. 21, 2018.
9. "Tuning Disorder in Phase Change Materials for Memory Technology", 2017 International Forum on Advanced Materials, Xi'an, China, Nov. 10, 2017.
10. "Tuning Disorder in Phase Change Materials for Memory Technology", Invited by Prof. Ming Xu for SOEI Forum, Huazhong University of Science and Technology, Wuhan, China, Oct. 9, 2017.
11. "Density-functional Theory Guided Advances in Phase-change Materials and Memories", 6th Annual World Congress of Advanced Materials, Xi'an, China, Jun. 15, 2017. Session co-Chair
12. "Anderson Localization of Electrons in Chalcogenide Phase Change Materials", 2016 International Workshop on Information Storage, Changzhou, China, Apr. 11, 2016.
13. "Direct Atomic Structure Imaging of Rocksalt GeSbTe as an Anderson Insulator", MRS Spring Meeting, Phoenix, USA, Mar. 29, 2016.
14. "Anderson Localization of electrons in Chalcogenide Phase Change Materials", Invited by Prof. Jie Ren, Tongji University, Shanghai, Mar. 12, 2016
15. "Anderson Localization of electrons in Chalcogenide Phase Change Materials", Invited by Prof. Di Wu, Nanjing University, Nanjing, Mar. 10, 2016
16. "Density Functional Theory guided advances in phase change materials and memories", The 1st Sino-German Symposium on Electronic and Memory Materials, Nov. 2, 2015,

Aachen, Germany. Organizer, Session Chair.

17. "Ab initio simulations of Phase-Change Materials", Invited by Prof. Zhitang Song, Shanghai Institute of Microsystem and Information Technology, Shanghai, China, Jan. 13, 2015.
18. "How fragility makes phase-change data storage robust: insights from ab initio simulations", JARA-FIT Science Days, Schleiden, Germany, Nov. 8, 2014.
19. "Metal-Insulator Transition in Crystalline Phase-Change Materials", invited by Prof. Zhimei Sun, Beihang University, Beijing, China, Sep. 24, 2014.
20. "Metal-Insulator Transition in Crystalline Phase-Change Materials", invited by Prof. Xiaodong Han, Institute of Microstructure and Property of Advanced Materials, Beijing University of Technology, Beijing, China, Sep. 22, 2014
21. "Metal-Insulator Transition in Crystalline Phase-Change Materials", 7th International Workshop on Materials Behavior at the Mirco- and Nano-Scale, Xi'an, China, 2014.
22. "Ab initio study of phase-change materials", Invited by Prof. Zhiwei Shan, CAMP-Nano, Xi'an Jiaotong University, Xi'an, China, Dec. 27, 2013.
23. "Role of vacancies in metal-insulator transitions in crystalline phase-change materials", DFG-JST Mini-workshop on Spintronics, FZ- Jülich, Germany, Jul. 20, 2012

注册报告：

1. "Atomic disorder in crystalline GeSbTe phase change materials", European symposium on Phase-Change and Ovonic Sciences (EPCOS), Aachen, Germany, Sep 5, 2017.
2. "Atomic defects in hexagonal GeSbTe compound", MRS Spring Meeting, Phoenix, USA, Apr. 18, 2017. Session co-Chair.
3. "Ab initio molecular dynamics simulations of crystallization of AIST", DPG Spring Meeting, Dresden, Germany, Apr. 2014.

4. "Metal-Insulator Transitions in Crystalline Phase-Change Materials", APS March Meeting, Baltimore, USA, Mar. 2013.
5. "Metal-Insulator Transitions in Crystalline Phase-Change Materials", DPG Spring Meeting, Regensburg, Germany, Mar. 2013.
6. "Magnetism in Phase Change Materials Doped with Magnetic Impurities", DPG Spring Meeting, Berlin, Germany, Mar. 2012.\